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EXAMINER

CHEN, CHONGSHAN

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/900,733

Applicant(s)

MENIN ET AL.

Examiner

Chongshan Chen

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### **DETAILED ACTION**

1. Claims 1-39 are pending in this Office Action.

#### ***Information Disclosure Statement***

2. The reference cited in the IDS, PTO-1449, Paper No. 2, has been considered.

#### ***Specification***

3. The disclosure is objected to because of the following informalities:

The specification does not define the term "engineered knowledge" and meaning of "engineered".

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 6 recites the limitation "the engineered knowledge base" in line 1 of the claim.

There is insufficient antecedent basis for this limitation in the claim.

#### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2172

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhilyaev

(6,137,911).

As per claim 1, Zhilyaev teaches a method for classifying an item, the item having a plurality of attributes, each attribute having a value, the method comprising:

selecting an attribute of the item (Zhilyaev, col. 4, lines 2-4, "For a selected term in the text entity ...");

comparing the value of the attribute of the item to a set of possible attribute values, the possible attribute values being associated respectively, with item classifications (Zhilyaev, col. 11, lines 41-45, "to compare the discrimination values for the document to a threshold value. If a discrimination value goes above the threshold, the document may belong to a cluster ...");

selecting at least one item classification for the item based on the comparison (Zhilyaev, col. 4, lines 17-19, "the text entity is classified into those clusters in which the entity has a number of significant terms greater than a predetermined threshold number"); and

determining a confidence score for each selected item classification for the item (Zhilyaev, col. 4, lines 5-19).

As per claim 2, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches an engineered knowledge base of classifications, each classification associated with at least one attribute and each attribute associated with at least one attribute value (Zhilyaev, col. 3, lines 23-28).

Art Unit: 2172

As per claim 3, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches

selecting a second attribute of the item if one selected item classification does not have a sufficiently high confidence score (Zhilyaev, col. 4, lines 1-19);

comparing the value of the second attribute of the item to a set of possible second attribute values, the possible second attribute values being associated, respectively, with item classifications (Zhilyaev, col. 11, lines 41-45);

selecting at least one item classification for the item based on the second comparison (Zhilyaev, col. 4, lines 17-19); and

determining a confidence score for each selected item classification of the second comparison (Zhilyaev, col. 4, lines 5-19).

As per claim 4, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches

comparing the value of the attribute of the item to a second set of possible attribute values, the possible attribute values being associated respectively, with the item classifications (Zhilyaev, col. 11, lines 41-45);

selecting at least one item classification for the item based on the second comparison (Zhilyaev, col. 4, lines 17-19); and

determining a confidence score for each selected item classification for the item (Zhilyaev, col. 4, lines 5-19).

As per claim 5, Zhilyaev teaches all the claimed subject matters as discussed in claim 3, and further teaches each set of possible values comprises an engineered knowledge base, the

Art Unit: 2172

engineered knowledge bases comprising at least one of a primary engineered knowledge base of key item attribute values, an engineered knowledge base of a classification schema, and an engineered knowledge base of an alternated classification system (Zhilyaev, col. 3, lines 23-28).

As per claim 6, Zhilyaev teaches all the claimed subject matters as discussed in claim 3, and further teaches the engineered knowledge base of a classification schema contains a plurality of item classifications mapped to a second classification schema (Zhilyaev, col. 3, lines 23-28).

As per claim 7, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches comparing the value of the attribute and selecting at least one item classification are performed independent of a subject matter of the item classifications, the subject matters including one or more of electronic, office products, and medical supplies (Zhilyaev, col. 3, lines 23-28).

As per claim 8, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches comparing the value of the attribute and selecting at least one item classification are performed independent of a language of the item and independent of a language of the set of possible attribute values (Zhilyaev, col. 4, lines 17-19).

As per claim 9, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches the attribute is a part number of the item (Zhilyaev, col. 11, lines 41-45).

As per claim 10, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches the attribute is a description of the item (Zhilyaev, col. 11, lines 41-45).

As per claim 11, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches comparing the value of the attribute comprises performing a search for a matching value among the set of possible attribute values (Zhilyaev, col. 12, lines 28-67).

As per claim 12, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches comparing the value of the attribute comprises performing a search for a value among the set of possible attribute values that is within a range (Zhilyaev, col. 12, lines 28-67).

As per claim 13, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches determining a confidence score comprises determining a percentage of items in an item classification that contain an attribute value found in the respective comparison and assigning a higher confidence score for attribute values contained in a higher percentage of items in the respective item classification (Zhilyaev, col. 11, line 64 – col. 12, line 67).

As per claim 14, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches determining a confidence score comprises determining a degree of similarity between the value of the attribute and the corresponding attribute value of the selected item classification (Zhilyaev, col. 11, lines 41-45).

As per claim 15, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches presenting the item and the selected item classifications from the comparison to a user (Zhilyaev, col. 5, lines 23-67).

As per claim 16, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches the confidence scores are presented to the user in association with the corresponding item classifications (Zhilyaev, col. 5, lines 23-67).

As per claim 17, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches analyzing the attribute value of the item against a stop list and excluding any stop list words from the comparison (Zhilyaev, col. 7, lines 38-67).

As per claim 18, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches presenting the selected item classifications to a user; receiving a designation from the user of at least one selected item classification; and classifying the item in the designated item classifications (Zhilyaev, col. 5, lines 23-67).

As per claim 19, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches comparing confidence scores for all selected item classifications and classifying the item in at least one of the selected item classifications based on the confidence score comparison (Zhilyaev, col. 11, lines 41-45).

As per claim 20, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches automatically classifying an item if the confidence score is above a threshold and presenting the selected item classifications to a user if the confidence score is below the threshold (Zhilyaev, col. 3, lines 23-67).

As per claim 21, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches comparing the value of the first attribute comprises successively executing a plurality of searches, each successive search having more general criteria and wherein determining a confidence score comprises assigning a lower confidence score to the results of each successive search (Zhilyaev, col. 10, lines 30-67).

As per claim 22, Zhilyaev teaches all the claimed subject matters as discussed in claim 1, and further teaches

selecting a classification for the item (Zhilyaev, col. 4, lines 17-19);

supplementing the set of possible attribute values with attribute values of the item (Zhilyaev, col. 10, lines 30-67).



Art Unit: 2172

As per claim 23, Zhilyaev teaches all the claimed subject matters as discussed in claim 22, and further teaches set of possible attribute values initially contains no attribute values, the method further comprising repeating selecting an attribute, comparing the value of the attribute, selecting at least one item classification, selecting a classification, and supplementing the set of possible attribute values for a plurality of items so that as each item is classified, the set of possible attribute values is increased (Zhilyaev, col. 10, lines 30-67).

As per claim 24, Zhilyaev teaches a method for classifying an item, the item being associated with a plurality of descriptive terms, the method comprising:

searching a reference list of descriptive terms to find descriptive terms corresponding to the descriptive terms associated with the item, the reference list of descriptive terms including at least one item classification for each descriptive term and a confidence score for each item classification of each descriptive term (Zhilyaev, col. 8, line 51 – col. 10, line 67);

compiling the item classifications and associated confidence scores for each found corresponding descriptive term in the reference list to determine a confidence score for each item classification (Zhilyaev, col. 11, lines 21 – col. 12, lines 67);

ranking the item classifications for each found descriptive term using the compiled confidence scores (Zhilyaev, col. 4, lines 43-58).

As per claim 25, Zhilyaev teaches all the claimed subject matters as discussed in claim 24, and further teaches successively executing a plurality of searches, each successive search having more general criteria and wherein compiling the confidence scores comprises adjusting the confidence scores so that a score is lowered for each successive search in which the corresponding descriptive term is first found (Zhilyaev, col. 8, line 51 – col. 10, line 67).

As per claim 26, Zhilyaev teaches all the claimed subject matters as discussed in claim 24, and further teaches presenting the item classifications and rankings to a user (Zhilyaev, col. 4, lines 43-58).

As per claim 27, Zhilyaev teaches all the claimed subject matters as discussed in claim 24, and further teaches receiving a designation of at least one item classification from the user; and classifying the item in the designated classifications (Zhilyaev, col. 3, line 23 – col. 4, line 59).

As per claim 28, Zhilyaev teaches all the claimed subject matters as discussed in claim 24, and further teaches automatically classifying an item if the confidence score is above a threshold and presenting the selected item classifications to the user if the confidence score is below the threshold (Zhilyaev, col. 3, line 23 – col. 4, line 59).

As per claim 29, Zhilyaev teaches all the claimed subject matters as discussed in claim 24, and further teaches the descriptive terms in the reference list are associated with possible attributes of the item and wherein the confidence score depends upon the attribute with which the descriptive term is associated (Zhilyaev, col. 8, line 51 – col. 10, line 67).

As per claim 30, Zhilyaev teaches all the claimed subject matters as discussed in claim 24, and further teaches searching for descriptive terms associated with the same attribute as the attribute of the item associated with the searched descriptive term (Zhilyaev, col. 8, line 51 – col. 10, line 67).

As per claim 31, Zhilyaev teaches all the claimed subject matters as discussed in claim 24, and further teaches classifying the item in at least one of the item classifications for a found

Art Unit: 2172

descriptive term; and supplementing the reference list with descriptive terms associated with the item (Zhilyaev, col. 10, lines 30-67).

As per claim 32, Zhilyaev teaches all the claimed subject matters as discussed in claim 24, and further teaches the reference list comprises an engineered knowledge base, the engineered knowledge base comprising at least one of a primary engineered knowledge base of key item attribute values, an engineered knowledge base of a classification schema, and an engineered knowledge base of an alternated classification system (Zhilyaev, col. 3, lines 23-36).

As per claim 33, Zhilyaev teaches all the claimed subject matters as discussed in claim 32, and further teaches the engineered knowledge base of a classification schema contains a plurality of item classifications mapped to a second classification schema (Zhilyaev, col. 3, lines 23-36).

Claim 34 is rejected on grounds corresponding to the reasons given above for claim 1.

Claims 35-36 are rejected on grounds corresponding to the reasons given above for claims 3-4.

As per claim 37, Zhilyaev teaches an apparatus for classifying an item, the item having a plurality of attributes, each attribute having a value, the apparatus comprising:

a classification knowledge database containing a plurality of values, each associated with at least one category (Zhilyaev, col. 3, lines 23-28);

a search engine to select an attribute of the item, to compare the value of the attribute of the item to a set of possible attribute values of the classification knowledge database, to select at least one item classification for the item based on the comparison, and to determine a confidence score for each selected item classification for the item (Zhilyaev, col. 4, lines 1-19).

Art Unit: 2172

As per claim 38, Zhilyaev teaches all the claimed subject matters as discussed in claim 37, and further teaches selecting a second attribute of the item if one selected item classification does not have a sufficiently high confidence score, to compare the value of the second attribute of the item to a set of possible second attribute values, of the classification knowledge database, to select at least one item classification for the item based on the second comparison, and to determine a confidence score for each selected item classification of the second comparison (Zhilyaev, col. 10, line 30 – col. 11, line 67).

As per claim 39, Zhilyaev teaches all the claimed subject matters as discussed in claim 37, and further teaches comparing the value of the attribute of the item to a second set of possible attribute values, the possible attribute values being associated, respectively, with the item classifications, to select at least one item classification for the item based on the second comparison, and to determine a confidence score for each selected item classification for the item (Zhilyaev, col. 10, line 30 – col. 11, line 67).

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chongshan Chen whose telephone number is 703-305-8319. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on (703)305-4393. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2172

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

November 17, 2003

  
SHAHID ALAM  
PRIMARY EXAMINER